CLAIMS:

1. A rise rate control system to control a rise rate of a free-floating lighter than air platform comprising a vent actuator, an altitude sensor and a device that controls the vent actuator when the rise rate is greater than a predefined rise rate.

2. The system of claim 1, wherein the altitude sensor determines both an altitude of the free-floating platform and the rise rate.

3. The system of claim1, wherein the device determines the rise rate.

4. The system of claim 1, wherein the device is located on the free-floating platform.

5. The system of claim 1, further comprising a ballast container, a ballast and a ballast discharge actuator that controls a discharge of the ballast from the ballast container when the rise rate is less than a particular rise rate.

6. A method of controlling a rise rate of a free-floating lighter than air platform by a rise rate control system comprising a vent actuator, an altitude sensor and a device that controls the vent actuator when the rise rate is greater than a predefined rise rate, the method comprising determining the rise rate and controlling the rise rate.

7. The method of claim 6, wherein the controlling the rise rate comprises venting the vent actuator by the device.

8. The method of claim 6, wherein the altitude sensor or the device determines the rise rate.

9. The method of claim 6, wherein the device is located on the free-floating platform.

10. The method of claim 6, wherein the rise rate control system further comprises a ballast container, a ballast and a ballast discharge actuator that controls a discharge of the ballast from the ballast container when the rise rate is less than a particular rise rate and wherein the controlling the rise rate comprises discharging the ballast from the ballast container.

11. A method for determining a location of a device transmitting wireless signals with a plurality of free-floating lighter than air platforms comprising taking signal path delay measurements from the plurality of free-floating lighter than air platforms and determining the location of the device transmitting wireless signals based on the signal path delay measurements, wherein the plurality of free-floating lighter than air platforms have a speed relative to the surface of the earth of less than 100 miles per hour and float at an altitude of 60,000-140,000 feet, wherein the method does not require a Doppler shift correction.

12. The method of claim 11, wherein the signal path delay measurements are performed by measuring the difference between a time of arrival of a wireless signal of the device transmitting wireless signals and a standard time.

13. The method of claim 11, wherein the determining the location of the device transmitting wireless signals is based on the signal path delay measurements from at least three independent free-floating lighter than air platforms.

14. The method of claim 11, wherein the device transmitting wireless signals is located on (a) a free-floating lighter than air platform that has landed on the earth or (b) a ground-based vehicle, and the device is a transmitter or a transceiver.

15. The method of claim 11, wherein the determining the location of the device transmitting wireless signals based on the signal path delay measurements comprises determining distances from the device to the plurality of free-floating lighter than air platforms, tracing out approximate circles on the earth based on the distances and determining a point of intersection of

the circles, the point of intersection being substantially the location of the device transmitting wireless signals.

16. A method for determining a location of a payload comprising a device transmitting wireless signals and a GPS unit, the method comprising measuring a location of the device transmitting wireless signals by the GPS unit, checking for a shift in the location of the device transmitting wireless signals and communicating the location of the payload to a free-floating lighter than air platform.

17. The method of claim 16, wherein the payload has landed on the earth and the free-floating lighter than air platform floats at an altitude of about 60,000-140,000 feet, wherein the method does not require a Doppler shift correction.

18. A system for locating and determining usage of a ground-based vehicle comprising a housing attached to a hub of the ground-based vehicle, the housing comprising a GPS unit, a device transmitting wireless signals and a power source.

19. The system of claim 18, further comprising a free-floating lighter than air platform comprising a device receiving wireless signals that receives signals from the device transmitting wireless signals.

20. The system of claim 18, wherein the power source is a solar power source, a battery, a generator, or combinations thereof.

21. A method for steering a steerable system comprising flying the steerable system in a circle relative to a local wind at the steerable system thereby nullifying a flight vector of the steerable system and determining a local wind vector of the local wind with respect to a position on the earth without using data obtained from a compass or an air speed indicator.

22. The method of claim 21, wherein the steerable system is an autonomous, GPS guided steerable system that does not have the compass or the air speed indicator onboard the steerable system.

23. The method of claim 21, wherein the determination of the local wind vector is based on a ground track vector of the steerable system.

24. The method of claim 23, wherein the ground track vector is obtained from a GPS unit located on the steerable system.

25. The method of claim 21, wherein the steerable system is a component of a free-floating lighter than air platform floating at an altitude of about 60,000-140,000 feet.

26. A method for determining a location of a device transmitting wireless signals with one or more free-floating lighter than air platforms comprising taking signal path delay measurements from the one or more free-floating lighter than air platforms at different intervals of time and determining the location of the device transmitting wireless signals based on the signal path delay measurements, wherein the one or more free-floating lighter than air platforms have a speed relative to the surface of the earth of less than 100 miles per hour and floats at an altitude of 60,000-140,000 feet, wherein the method does not require a Doppler shift correction.

27. The method of claim 26, wherein the one or more free-floating lighter than air platforms has one free-floating lighter than air platform.

28. The method of claim 26, wherein the one or more free-floating lighter than air platforms has two free-floating lighter than air platforms.

29. The method of claim 15, wherein the taking signal path delay measurements is taking only two signal path delay measurement.

30. The method of claim 15, wherein the taking signal path delay measurements is done by sectored or directional antennas.

31. The method of claim 18, wherein the housing further comprises a tire rotation sensor.

32. A system for locating and determining usage of a ground-based vehicle comprising a housing, the housing comprising a GPS unit, a device transmitting wireless signals and a power source, the system further comprising one or more free-floating lighter than air platforms comprising a device receiving wireless signals that receives signals from the device transmitting wireless signals.

33. The system of claim 32, wherein the one or more free-floating lighter than air platforms have a speed relative to the surface of the earth of less than 100 miles per hour and floats at an altitude of 60,000-140,000 feet, wherein the system does not require an instrument for a Doppler shift correction.